



We're giving away
\$2,500
in gift card prizes

[Learn more >](#)

(<https://www.instructables.com/contest/3dprint2023/?instructables>)

Make New Filament From Old 3D-prints (Recycling)

By 3dhubs (/member/3dhubs/) in Workshop (/workshop/) > Pallets (/workshop/pallets/projects/)

27,816 44 5



Download

Favorite



3D Hubs
(<http://www.3dhubs.com>)

(/member/3dhubs/)
By **3dhubs**
(/member/3dhubs/)

[Follow](#)

More by
the author:



About: 3D Hubs is the world's largest network of local 3D printing services. More About 3dhubs » (/member/3dhubs/)

3D printing has been branded as a way to reduce the impact we have on our environment. However, most of the time we're all too much familiar with a pile of failed prints, that negatively affect the environment surrounding us.

Here at 3D Hubs we want to stop this waste and change the way we produce things. That's why at 3D Hubs we've started the **#REMAKE3D** campaign (<https://www.3dhubs.com/talk/thread/time-recycling-now-what%E2%80%99s-your-biggest-printing-fail>) to create awareness of the possibilities that are recently popping up to recycle these old prints. So now after you collected your old 3D-prints, let's look at what to do next.

 Add Tip  Ask Question  Comment [Download](#)

Step 1: Separate the Old Prints



After you collected your old prints, it is important to separate the

different materials. So ABS goes with ABS and PLA with PLA.

If you don't do this precisely this will result in issues, both extruding and printing, because for instance the melting temperature for both materials is different.

 Add Tip  Ask Question  Comment Download

Step 2: Shred the Old Prints



You need something that can tear the prints apart. For instance a Filamaker shredder (<https://www.3dhubs.com/talk/thread/which-shredding-and-extruding-machines-are-available-part-3>) is perfect or, just a simple office shredder might work. Another possibility is to crush the prints by placing them in a bag/towel and hitting them with a hammer.

 Add Tip  Ask Question  Comment Download

Step 3: Setup Your Extrusion Lab



Next, it's time for the real deal, setting up the extrusion process. There's a couple of simple tips:

- Make sure you get some kind of filament extruder (<https://www.3dhubs.com/talk/thread/which-shredding-and-extruding-machines-are-available-part-3>)
- Place the extruder in a stable position
- Make sure the filament can flow out of the nozzle consistently. You can

for instance use a [winding system](http://www.filastruder.com/products/filawinder) (<http://www.filastruder.com/products/filawinder>) or just simply let it fall to the ground. Some setups run the filament through water to cool it. This can work well but requires that the filament is dried afterwards as well. What also works to cool the filament is using a fan.

 Add Tip  Ask Question  Comment Download

Step 4: Extrude the Filament



Feed your waste into the extruder and, according to the extruder you own, use its controls to fine-tune the diameter of the filament. For the [Filabot](http://www.filabot.com/) (<http://www.filabot.com/>), you can, for instance, only control the temperature. Set it higher to increase the flow rate of the filament. This also increases the stretching of the filament however which decreases the diameter. Naturally decreasing the temperature has the opposite effect.

Generally good temperatures for extruding shredded old prints are:

PLA: 140C-170C

ABS: 170C-200C

But this of course depends on many factors so this very well might be different for different situations.

 Add Tip  Ask Question  Comment Download

Step 5: Spool It and Use It



2 People Made This Project!



Did you make this project? Share it with us!

I Made It!

Recommendations





Add Tip

Ask Question

Post Comment

We have a **be nice** policy.
Please be positive and constructive.

Add Images

Post

5 Comments

- 

1

[\(/member/annrrr/\)](#) annrrr [\(/member/annrrr/\)](#) 7 years ago

Reply

 Upvote

Cool! It would be nice if there were recycling places for this so not everyone had to have the shredder and extruder. Reusing is better than recycling. So the recycling is less good if you are using machines that are not being reused by many people. I dunno if that makes sense

3 replies 
- 

[\(/member/annrrr/\)](#) annrrr [\(/member/annrrr/\)](#) 7 years ago

Reply

 Upvote

Yay! Good!

Post Comment

Categories

-  Circuits
[\(/circuits/\)](#)
-  Living
[\(/living/\)](#)
-  Workshop
[\(/workshop/\)](#)
-  Outside
[\(/outside/\)](#)
-  Craft
[\(/craft/\)](#)
-  Teachers
[\(/teachers/\)](#)
-  Cooking
[\(/cooking/\)](#)

About Us

- [Who We Are \(/about/\)](#)
- [Why Publish? \(/create/\)](#)

Resources

- [Sitemap \(/sitemap/\)](#)
- [Help \(/how-to-write-a-great-instructable/\)](#)
- [Contact \(/contact/\)](#)

Find Us

[\(https://www.instagram.com/instructables/\)](https://www.instagram.com/instructables/)

[\(https://www.tiktok.com/@instructables\)](https://www.tiktok.com/@instructables)

© 2023 Autodesk, Inc.

Terms of Service (<http://usa.autodesk.com/adsk/servlet/item?siteID=123112&id=21959721>)

Privacy Statement (<http://usa.autodesk.com/adsk/servlet/item?siteID=123112&id=21292079>)

Privacy settings

Legal Notices & Trademarks (<http://usa.autodesk.com/legal-notices-trademarks/>)

 [AUTODESK \(http://www.autodesk.com\)](http://www.autodesk.com)